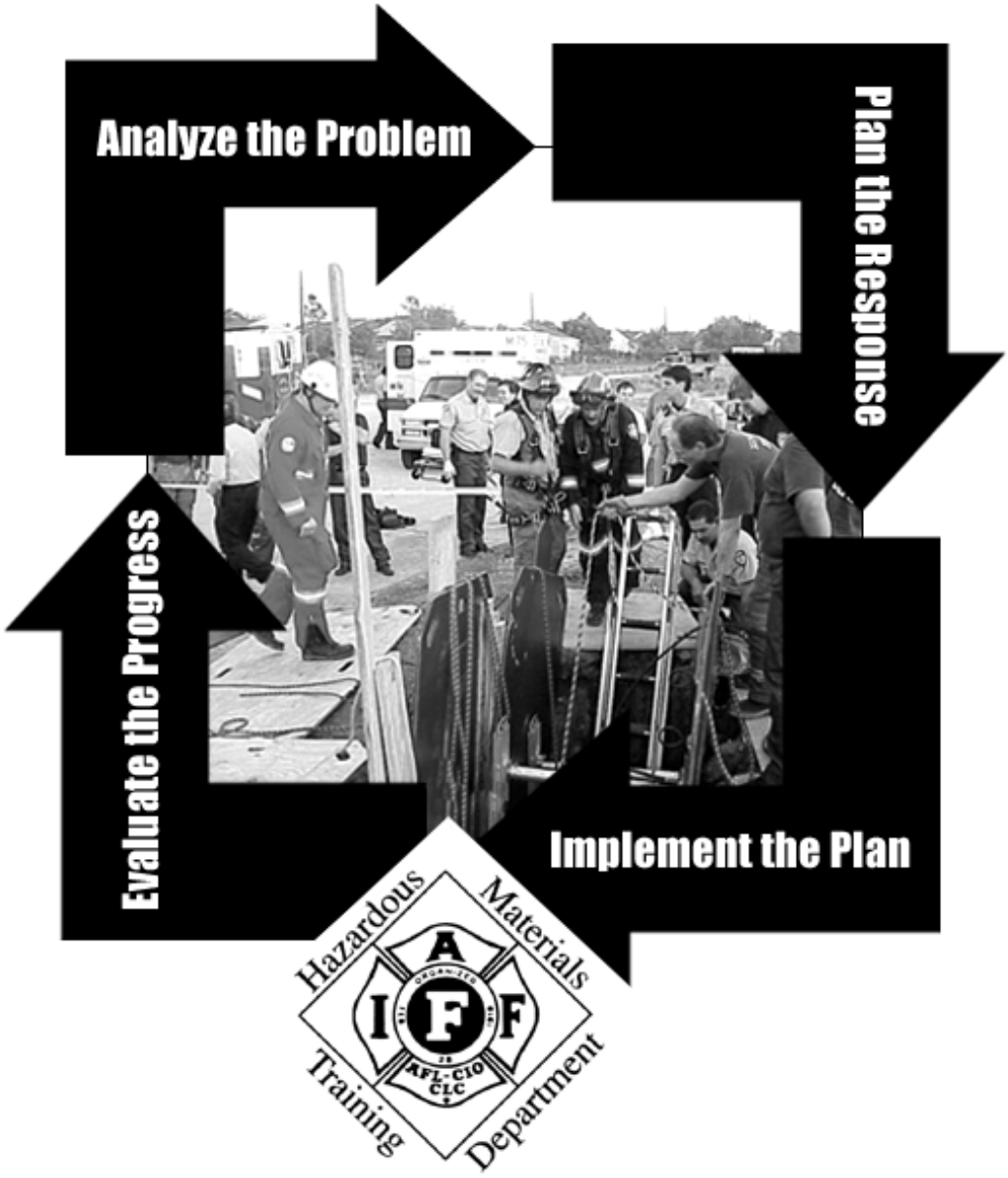

Incident Command Module

Prepared for

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Incident Command Module

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Background

The response during and after September 11th of 2001 demonstrated the invaluable role trade labor skilled support personnel (SSP) played in confronting a terrible crisis. During that catastrophe, many skilled trades workers teamed side-by-side with fire, rescue and Emergency Medical Service (EMS) personnel to mitigate the emergency scene.

Various skilled support professionals from the building, construction, and highway trades were called in to flank fire department members: iron-workers, heavy machinery operators, surveyors, etc. They performed highly specialized skills, unique to their profession, dictated by the severity and size of the emergency.

By synchronizing with the fire fighters, the Skilled Support Personnel (SSPs) strengthened the overall, united response to the disaster. Many assorted individual efforts contributed to a single, focused response.

In the future, we may face even more complicated and hazardous emergency incidents: incidents that will involve hazardous materials (HazMat) and/or Weapons of Mass Destruction (WMD); incidents that will benefit from trade organization personnel and members of the Fire Service working in tandem. Such coordination needs to occur by design, not by happenstance.

Now that we're all beginning to comprehend and appreciate the significance of close collaboration and integration, we need to become more efficient and effective while working safely together. To become a united front, we all need to be following the same pre-determined course of action.

Purpose

So, this instructional module focuses on that action plan: the approach to follow at an emergency incident. The module relates how the fire service will be set up and operating at the time when SSP's are called in to contribute specialized expertise at an emergency scene. The module describes how fire fighters take command of an emergency incident, simultaneously taking precautions to ensure everyone's health and safety – including SSPs.

Their take-charge protocol is very straight-forward and systematic, which keeps everyone organized regardless of an individual's specific assignment. The following instruction explains how this fire service Incident Command System (ICS) works and how all responders, including SSP's, fit in to insure safe and successful outcomes from mutual response to emergencies.

Audience

This short module was developed by the International Association of Fire Fighters to be used by The Center to Protect Workers' Rights during their Hazardous Materials training for Skilled Support Personnel.

This module assumes SSPs to be trade and allied professions workers who are skilled in the operation of certain equipment (such as mechanized earth moving or digging equipment, cranes, etc.) and who are needed temporarily to perform immediate support work (skilled services) at an emergency incident. These individuals are members of, but are not limited to, the building and construction trades.

Objectives

By the end of the module, participants will know the general principles and logistics associated with the fire service Incident Command System (ICS). Specifically

- Where to report in at an incident scene
- Who they should report to
- What their responsibilities are.

Participants will be able to:

1. Understand how the Incident Command System is implemented by the fire service during incidents involving hazardous materials and/or weapons of mass destruction.

2. Define the general structure of the Incident Command System and respective roles/responsibilities.

3. Relate how the Incident Command System evolves from small to large incidents.

4. Describe the responsibilities of SSP, during and following an incident involving HazMat and/or WMD.

5. Recognize key safety issues for SSPs working within such incidents.

Part 1: Instruction

1. The Incident Command System

Based on cumulative experience over many years, the fire service has perfected an almost universally employed method for commanding the boundless variety of incidents it resolves. This Incident Command System is flexible enough for the most simple mission and resilient enough for the most complex. This versatile system adapts to all emergencies. Because it is fluid, it is capable of expanding or contracting to meet the demands of any specific emergency situation – as it initially exists, and as it's anticipated to develop.

This Command System is the blueprint for reacting to any kind of an emergency. It provides a common set of standards enabling diverse personnel and resources to make combined impact, producing a unified whole that far exceeds the sum of its parts to increase positive outcomes. The system assures a single, flexible plan leading to safe and successful incident resolution.

The System applies the same model to solve any and every emergency incident because there are certain management principles and standard operating procedures that apply to all incidents, regardless of emergency size, duration, or intensity; and regardless of which cross-jurisdictional agencies and Specialized Support Personnel may become involved in support roles. Continuous and consistent application of these principles makes expectations crystal clear to everyone responding to the incident, regardless of who they are, what they do, or where they come from.

The System assures order and organization required for speedy termination of the emergency situation by incorporating the following proven management principles of good leadership:

- System Solidarity - Each person deployed to the scene is expected to adhere to the same set of stipulated rules and procedures that everyone else relies on because the health, safety, and wellbeing of many is at stake.
- Unity of Command - Each person reports to one immediate supervisor, leading up the chain-of-command.
- Span of Control - No more than four to seven people should report to any given supervisor at any one time.

By establishing clear lines of authority and reporting relationships leading up to one Incident Commander, the Incident Command System (ICS) facilitates efficient deployment of the most capable personnel and equipment, and

enables rapid-speed reaction and communication while minimizing duplication of effort, deterring confusion, and eliminating opportunities for mistakes.

The ICS is capable of systematically organizing incident response, regardless of the type or size of:

- Wide-area search and rescue missions
- Pest eradication programs
- Oil spill response and recovery incidents
- Single and multi-agency law enforcement incidents
- Air, rail, water, or ground transportation accidents
- Private sector emergency management programs
- State or local major natural hazards management.

The ICS is rapidly gaining nationwide acceptance across many industries, not just because it is required by federal OSHA and EPA regulations for emergency response, but because its common sense approach enables like and/or diverse entities to interact "as one" in pursuit of a common, beneficial, outcome.

Work Units Within the Command System

Command

When fire fighters first arrive at the scene of an emergency, they set up a workforce chain-of-command. A single leader assumes charge, providing direction and guidance to all other arriving workers. This "take charge" leader is referred to as the Incident Commander. The first emergency responder who arrives at the scene may assume this role, at least initially.

The Fire Service organizes responding personnel, with the Incident Commander at the top of the chain-of-command, in a manner similar to leadership models used in government, business, industry, the military, and sports. The Incident Commander serves the specific emergency incident just as a

- President leads our country as Commander-in-Chief
- General leads subordinate military units
- Manufacturing foreman leads the plant division
- Coach leads a sports team to execute a play
- And, probably just like your supervisor at work oversees performance!

As key strategist - with top responsibility, full authority, and ultimate accountability for an emergency scene - the Incident Commander:

- Analyzes the situation to set priorities and clarify objectives
- Designates a Command Post work area at the emergency scene
- Reports location of Command Post and initial requirements analysis to the local fire department and may request that additional resources such as SSPs be dispatched to the scene
- Establishes clear lines of authority; then directs personnel
- Manages and organizes personnel, equipment, resources
- Develops and communicates an overall strategic plan
- Maintains worker health and safety as a priority.

The following officers operate as line Command Staff, keeping the Commander constantly informed and updated:

- Public Information Officer–Coordinates information released by responding agencies, including those of SSP's, so that information released is accurate
- Safety Officer–Monitors and assesses safety hazards and unsafe situations, including those that could affect SSP's
- Liaison Officer–Coordinates services of responding agencies, including those deploying SSP's to the emergency incident. The Liaison Officer also ensures that all other agency resources (including SSP's) are properly checked in and know where to report.

Appendix A includes a more detailed description of the exact analytical, planning, implementation, and evaluative steps fire fighters follow during HazMat and WMD incidents to:

1. Establish command
2. Survey the scene of the emergency incident
3. Collect and interpret information on hazards and responses
4. Assess vulnerable populations
5. Identify damage
6. Isolate hazards
7. Create a specific plan of action providing for the:
    - Safety of all incident personnel, including SSPs
    - Rescue and evacuation, if necessary
    - Control of the situation
    - Stabilization of hazardous materials/weapons of mass destruction and/or disposal or removal of them
8. Continue to evaluate the situation.

Appendix B depicts all possible organizational units within the fire service. Appendix C includes organizational charts for various sizes of incidents, and suggests where SSPs may fit in. As training participants review these appendices, they should discuss how they have helped in previous emergency situations, and how they might appropriately help in the future.

Tactical Sections

Several tactical units actually direct activity to meet incident objectives. These sections are formed only as needed to perform operations, planning, logistics, and finance duties. Some minor incidents don't require any sections, other incidents may require just an Operations Section, and complex incidents will likely require mobilizing all four sections. Each of these units falls under a Section Chief who reports directly to the Incident Commander.

Operations Section -

The Operations Section manages, coordinates, and controls all on-scene tactics: fire fighting, hazardous materials mitigation, search and rescue, emergency medical operations, etc.

The Operations Section Chief supervises fulfillment of the incident action plan and can request additional resources to support the tactical operations. (As the size or intensity of the incident expands, the Operations Chief may designate Branch Directors to manage divisions or groups of workers responsible for specific functions such as fire fighting, dealing with hazardous materials, performing emergency medical services, and enforcing the law.)

The Operations Section Chief also establishes a Staging Area to temporarily locate resources, such as SSPs, who are awaiting instruction and/or assignment. **Skilled support personnel arriving at an emergency incident scene should immediately report to the designated Staging Area. If a Staging Area has not been established at some distance away from the Command Post, SSPs should report directly to the Command Post for instruction and assignment.**

Planning Section –

The Planning Section is responsible for collecting, evaluating, and disseminating all incident information. It is also responsible for maintaining information on both current and forecasted situations, status of resources, and preparation of the Incident Action Plan. One of the primary functions of the Planning Section is to develop suggestions for the Incident Commander as the Incident Action Plan is being developed.

Logistics Section –

The Logistics Section is responsible for providing all incident support needs, including facilities, services, and materials. An effective Logistics Section must be proactive and anticipate future needs. Some support services provided by the Logistics Section include arranging for food, communication lines, ground support, and medical and general supplies.

Finance Section –

The Finance Section is responsible for tracking all costs related to the incident (such as processing overtime and Worker's Compensation claims, paying the bills associated with the incident, and ensuring that finances are available for emergency expenditures). Its primary responsibility is to channel funds to where they are needed and to ensure that adequate, but simple financial controls are in place.

2. Safe Work Practices

In many cases, SSPs may be exposed to physical and/or environmental hazards, including chemical and biological substances, and weapons of mass destruction (WMD), as well as those associated with structural collapse and falls. SSP safety and health is no less important than that of anyone else on the scene.

Personal Protective Equipment

In extreme cases, SSPs may first be trained to use Personal Protective Equipment (PPE) and to apply safe work practices, and then may be issued their own set of PPE. In most cases, a fire department Safety Officer will advise, issue and when necessary, arrange for training in safety matters and equipment at the scene of an incident. Under OSHA regulation, all SSPs must adhere to requirements related to workplace safety and equipment, including the employment of personal protective clothing.

SSPs at the emergency scene must receive advance training in proper selection, use, and limitations of all equipment. The key point here is that you should be trained and certified before the incident in any/all PPE you are expected to wear. In cases where such training was not provided before an incident, SSPs should receive training at the emergency site before actually using the equipment.

Contaminants may enter the human body in the following five ways: inhalation, skin absorption, ingestion, injection and puncture, and through the eyes. The health and safety challenge confronting SSPs lies in protecting those routes of entry from introduction to and contamination by chemical, biologic or radiological agents (adjunct equipment protection must be used when such exposure is possible or likely).

Precisely which items of protective equipment are made available to SSPs depends upon the type and severity of occupational exposure expected at a given incident. In most cases, equipment is selected and employed to protect the individual from both physical and chemical exposure.

SSPs are advised to become familiar with, and begin or continue training with such equipment **now.** Along with training in equipment usage, protection, and limitations, it is also advisable for SSPs to consider how their specialty skills might be called upon to assist at an emergency scene.

Protective equipment items are typically worn on specific parts of the body:

- Head: helmets for protection from impact
- Eyes: encapsulating goggles for protection from flying objects, gas, liquid, vapor and particulate matter
- Full body: coats, pants, jumpsuits and fully-encapsulating garments that can provide abrasion, ambient and radiant temperature protection, flame resistance, and/or chemical protection
- Respiratory system: may be a self-contained positive pressure (SAR/SCBA) or cartridge type air purifying respirator (APR) for chemical, biologic or radiological protection.

Decontamination

When the possibility exists that an emergency responder or an SSP counterpart may be exposed to and/or contaminated by hazardous substances, efforts must be made, prior to leaving the operational area, to assure that SSP's and their equipment are decontaminated.

Decontamination is the systematic process of removing or neutralizing contaminants that collect on personnel and equipment. When necessary, decon most often includes a worker showering and donning new clothing on site. In some cases, when an incident is severe, it may be best to discard equipment.

Exposure Reporting

Following response to a hazardous materials or WMD event, OSHA regulations require that fire fighters track and document their personal occupational exposures to hazardous substances through a formalized reporting system developed by the employer or union to create a permanent record supporting the provision of medical care in the event of injury or illness.

Most tracking systems ask a series of questions about the types of substances; nature, severity, and length of exposure; and type/s of protective equipment worn. Answers to these inquiries may trigger immediate, short or long term medical care, so the value of having a system in place - and the SSP making sure to use it - can not be overstated. It is absolutely critical for you to document any known or suspected exposure to hazardous substances.

Additionally, and as important, a good reporting system creates a permanent record of occupational exposure to hazardous agents that may serve as the basis for securing future medical, pension, and Worker's Compensation benefits. Remember, in order to qualify for such benefits, SSPs must be able to show they were at a certain place on a specific date and exact time.

Medical Monitoring

The very nature of emergency response work - including those situations where SSP's work alongside firefighters at potential HazMat/WMD incidents - causes concern for personal short and long-term health. OSHA regulations require that firefighters who report significant occupational exposures to hazardous substances receive immediate short and long-term medical care.

If the appropriate medical intervention is applied early, it may help detect initial signs of illness and injury associated with hazardous substances.

3. Skilled Support Personnel Responsibilities at the Incident. What should you do?

Step 1: Check in

When Skilled Support Personnel from their respective organizations serve as a resource at the scene of an incident, they must formally check in as soon as they arrive. The check-in process officially records everyone's arrival at the incident scene. Incident size and severity will probably dictate the proper check-in location: either the Command Post or a Staging Area.

- Approach the first fire fighter or police officer in sight.
- Identify yourself, your organization, and your skill/expertise.
- Seek directions to the Command Post (also request that the Command Post be notified of SSP arrival, if possible).
- Ask for the location of the Staging Area and go to receive instruction and be assigned to an operational area.
- Report to your assigned operational area. At this point, the SSP is considered fully present and accounted for, or "tagged in".

Step 2: Apply "give-and-take" along with expertise

Skilled Support Personnel are called to an emergency scene to perform highly specialized tasks in a particular trade or area of expertise. It is important to know that you are appreciated and encouraged to share your thoughts and ideas with your contact person regarding how best to employ your equipment and services. However, you should understand that the Incident Commander is ultimately responsible for all activities and always retains final decision-making authority.

Although the primary goal will be to complete your assigned tasks as efficiently and accurately as possible, under intense pressure of the moment, you'll have a unique "big picture" view based on past experience, so your ability to help troubleshoot and foresee potential consequences is invaluable. Maintain routine, frequent contact with your assigned "buddy", so that your suggestions are constantly fed into, and considered by, the established chain-of-command.

Step 3: Direct inquiries to appropriate fire service contacts

At most emergency scenes, information about the incident and possible casualties is considered very sensitive. Operating within the ICS, skilled support personnel become privy to information that needs to remain confidential. Direct any inquiries concerning incident specifics to the Public Information Officer or Incident Commander. You should also avoid rendering personal opinions or observations to anyone other than your "buddy".

Step 4: Receive training on personal protective equipment and safe work practices

In many cases, SSPs will be exposed to physical and/or environmental hazards, including chemical or biological substances. The safety and health of SSPs is no less important than that of any first responder. You should be trained in both the use and limitations of personal protective equipment and safe work practices designed to preserve your occupational safety and health. Subsequently, you then may be issued safety equipment, including personal protective clothing. Never wear personal protective equipment – and expect that it will safeguard your health and safety – unless you are trained in its uses and limitations first.

Step 5: Be assigned to a contact person

Once assigned to an operational area, it is imperative that the SSP be paired with one contact person in order to maintain a strict chain-of-command. Your contact person will convey instructions to you and allow you to offer technical advice and to report your activities.

Allegiance to this "buddy system" within the dynamic emergency scene requires focused self-discipline. The reason to maintain a single point of contact is to assure that incident goals and personnel safety are not compromised, and that conflicting orders or duplicative tasks won't deplete valuable resources at the emergency scene.

Step 6: Comply with directives

You may be directed to wear an identifying name tag, apparel such as a labeled vest, or other protective devices (e.g., safety hardhat and goggles).

Follow orders, knowing that such personnel accountability measures are intended to keep tabs on all scene workers, at all times, so that order and security will be maintained.

Step 7: Decontaminate

You may be instructed to shower and change clothes while still on-site and/or you might be asked to move your equipment into an area where potential contaminants can be neutralized or removed. In all cases, decontamination activities are performed in a transition area (warm zone) between the operational area (hot zone/hazard zone) and a clean/safe area (cold zone).

Step 8: Check out

Let your contact person know how everything went, what has been accomplished, and what still needs to be accomplished (and ***how***, if you have suggestions) after your departure. Mention that you are preparing to leave the incident scene and ask where you should check out (usually at the Staging Area or at the Command Post). Agree on where and how any remaining equipment or supplies will be left and secured.

Step 9: After the incident, document any personal exposure to hazardous materials. If exposure has occurred, receive medical monitoring

SSPs, like fire fighting counterparts, must make sure that his/her employer has a program in place to provide complete medical monitoring by a licensed occupational medical practitioner. Early medical intervention preserves lives.

Part 2: Practice and Evaluation

The following quiz, matching worksheet, and review questions are intended to reinforce the content covered and afford application of instructed principles.

Incident Command Quiz

1. What facility would the Incident Commander establish first?

    a. A Staging Area
    b. An Incident Command Post
    c. A perimeter around the high school
    d. A communications center

2. Which unit is responsible for tracking incident costs?

    a. Finance/Administration Section
    b. Command Section
    c. Public Information Section
    d. Planning Section

3. Which section is responsible for providing facilities, services, and materials for the incident?

    a. Finance
    b. Logistics
    c. Liaison
    d. Staging

4. What does the Safety Officer do?

    a. Works for EMS
    b. Public relations
    c. Hazard assessment
    d. Performs skilled trades

5. What is the one ICS position that remains staffed at all times?

    a. Division Supervisor
    b. Task Force Leader
    c. Incident Commander
    d. Operations Section Chief

6. What is the Public Information Officer responsible for?

    a. Bypassing the chain-of-command
    b. Coordinating all incident decisions
    c. Establishing the Staging Area
    d. Interfacing with the press

Pg. 2, Incident Command Quiz

7. What is the optimum span of control in emergency incidents? How many workers should report to any given supervisor?

   a. 3
   b. 5
   c. 10
   d. 15

8. What does Unified Command involve?

   a. The fire department losing control of the situation
   b. The contribution of all agencies to the command process
   c. The public works department being in charge during recovery
   d. The implementation of separate action plans by each agency

1. Why is it important for SSP's to formally check in at an emergency incident scene?
   a. to find room for extra equipment
   b. so that overtime compensation can be calculated
   c**.** so specialty skills can be immediately applied
   c. to eliminate the need to complete cumbersome paperwork

2. What support does the SSP's contact person provide at the emergency scene?
   a. information
   b. dialogue
   c. involvement
   d**.** all of the above

3. Why should SSPs get training in advance of a HazMat incident?
   a. to be prepared
   b. to criticize first responders
   c. to make sure equipment is returned safely
   d. to get timely certification

12. Why is it important for SSPs to check out of an emergency incident scene?
   a. to insure accountability
   b. to receive credit
   c. to audit timesheets
   d. to consider overtime

Matching Worksheet – Incident Command Sections and Staff

Match these organizational sections with the function each performs.

Section:	Function of Section:
_____1. Incident Command Post	A. Tracks costs, disperses funds
_____2. Operations Section	B. Coordinates support needs (e.g. facilities, services, materials)
_____3. Planning Section	C. Organizes incident information
_____ 4. Logistics Section	D. Controls and executes the response plan
_____ 5. Finance Section	E. Develops the overall action plan at the scene of emergency

Officers:	Responsibility of Officer:
_____6. Incident Commander	F. Integrates services from assisting and cooperating agencies (e.g., Red Cross)
_____7. Public Information Officer	G. Monitors and assesses safety hazards and unsafe conditions; ensures appropriate PPE
_____8. Safety Officer	H. Coordinates, verifies, and disseminates all media releases
_____ 9. Liaison Officer	I. Maintains ultimate responsi-bility for resolving the incident

Review Questions

Q1: What types of occupational exposures might SSP's expect at an event?

Q2: Aside from common sense, are there any regulatory requirements that mandate protective actions for SSPs?

Q3: What are the (5) physical routes of contaminant entry that all incident staff, including SSPs, must act to protect when operating in a hazard zone?

Q4: In all likelihood, what protective equipment, if any, would an SSP be requested to don at the incident scene?

Q5: What is decontamination?

Q6: When and where is decontamination performed?

Q7: What is an Exposure Reporting System?

Q8: Exposure Reporting Systems are interested in what type of information?

Q9: What are the two most important benefits of a reporting system?

Q10: Why is medical monitoring important?

Q11: As an SSP, what steps should be followed at a hazardous materials incident scene?

Q12: For your particular trade, are there any other steps that should be followed at the scene of an incident involving hazardous materials and/or weapons of mass destruction?

Q13: Which of the steps will be hardest for you as an individual to apply, and what can you do at present to assure your personal compliance in advance of being called upon to help?

Appended Attachments:

A: First Responder Actions

This section provides an overview of the initial First Responder Actions fire fighters are trained to perform during HazMat and WMD incidents. This information is intended to provide you with a better understanding of the role of the fire service during the execution of an ICS.

B: Organizational Chart of all Fire Service Personnel Units

This chart shows the potential organization of all units that might be established to respond to a HazMat or WMD incident. All units report up to sections for operations, planning, logistics, and finance. These sections, in turn, report up the chain-of-command to the Incident Commander.

C: Small, Medium, and Large Incident Scenes Incorporating SSPs

Various scenarios unfold in this appendix: a small incident involving a trench collapse, a medium-sized incident involving a train derailment, and a large incident involving an explosion, building collapse and potential chemical release. Exactly where Skilled Support Personnel might fit into chain-of-command is shown.

Appendix A: First Responder Actions

1. Establish command.

Typically, command is established by the company officer of the first arriving unit. The individual filling the role of Incident Commander must be easily recognized and located at a stationary Command Post as soon as practical during the event.

Establishing command includes providing the following information to communications and incoming response units:

- Designation of the unit on the scene
- Name of the incident
- Location of the Command Post and any area for staging other units
- Notification or verification that hazardous materials are involved
- Brief description of the incident situation

First Responders must secure the scene and control access to the area as early as possible during the incident. In most cases, the establishment of controlled access areas should start at an outside perimeter and work toward isolation of the contaminated area. The Warm and Hot Zones should be established after the outer perimeter is secured.

The appropriate evacuation distance for each incident must be based on release rates, hazards of the materials, environmental considerations (weather, topography), and time required for taking protective actions in specific areas. Detection devices can be used by thoroughly trained personnel to assist in this decision-making process. It is also important to be alert for any symptoms of exposure among personnel, civilians, or animals. It is better to secure too large an area than too small an area. If the area is found to be unnecessarily large, the perimeter can be reduced in size.

What skilled support personnel could contribute to the incident scene at this point?
What know-how, specialty skills, and equipment might be helpful?
What resources could you provide as an individual?

2. Survey the scene.

Surveying, or sizing-up, hazardous materials incidents is the same process used for other fire department responses. Strategic priorities are the same: life safety (operating forces and civilians), incident stabilization, and property and environment conservation. When conducting a size-up, position yourself uphill and upwind of any release and consider terrain and weather conditions.

Determine the identities, quantities, handling considerations, and locations of the involved hazardous materials; the means by which the material is spreading; and the hazards likely to result from the spill or release.

What skilled support personnel could contribute to the incident scene at this point?
What know-how, specialty skills, and equipment might be helpful?
What resources could you provide as an individual?

3. Collect and interpret information on hazards and response actions.

With aided vision (e.g., using binoculars) determine what, if any, containers are in use. Examples of containers include:

- **Non-Bulk Containers**—bags, bottles, boxes, carboys, cylinders, drums, jerricans, multicell packages, wooden barrels

- **Bulk Containers**—bulk bags, bulk bottles, cargo tanks, covered hopper cars, freight containers, gondolas, pneumatic hopper trailers, portable tanks and bins, protective overpacks for radioactive materials, tank cars, ton containers, van trailers

- **Facility Containers**—buildings, piping, reactors (chemical and nuclear), storage bins, tanks and storage vessels

Responders must evaluate container markings and estimate the amount of hazardous materials present, as well as the form of the material and the point of release. Resources must be consulted, comparing response action recommendations from at least three sources.

Conditions surrounding the incident must be considered; responders should continuously monitor the scene for possible ignition sources. Accessibility must be evaluated and weather conditions, including general wind direction, should be noted.

What skilled support personnel could contribute to the incident scene at this point?
What know-how, specialty skills, and equipment might be helpful?
What resources could you provide as an individual?

4. Assess vulnerable populations.

One of the most important tasks for the Incident Commander to evaluate is the need for rescue and/or protective actions for groups of people. **Rescue of endangered individuals at hazardous materials incidents should not be performed unless the safety of the rescuers can be assured.** Initial rescue actions should be devoted to removing able-bodied persons, the "walking wounded," from immediate danger. Complicated rescues or difficult extrications should be evaluated thoroughly before being attempted. The dangers of exposure to an unknown chemical or a potential explosion may make the risks unacceptable. In making this decision, the Incident Commander must consider these risks as well as the likely outcome.

When contaminated individuals are rescued, the Incident Commander must arrange the isolation, decontamination, and treatment of these patients and the rescuers who may have been contaminated in the process. Contaminated patients may have to be held in an isolated area until they can be decontaminated.

It may become necessary to initiate protective actions for large groups of people in areas surrounding a hazardous release in order to prevent injury or death. For example, areas surrounding the site of a possible explosion are likely to require evacuation. A toxic plume may threaten the health of residents downwind, and anyone who will remain sheltered in their homes should be given instructions. The decision regarding whether evacuation or in-place protection is most appropriate must be based on the released material's physical and chemical properties, atmospheric and ground conditions, rate of release, and likely duration of release. The information gathered from direct observation and consultation with references and other resources should guide the Incident Commander in making this decision.

In-place protection may be an alternative to evacuation and should be considered if:

- Fire spread potential is minimal
- The release is expected to be short-term and low-level
- Vulnerable populations, such as the elderly and the sick, could sustain more injury during evacuation than by staying in place and taking appropriate protective actions

Your department should have specific procedures for both in-place protection and evacuation of vulnerable populations. Keep in mind that the *2000 Emergency Response Guidebook* deals with only the first 30 minutes following the release. Additional protective actions may have to be taken after this time.

5. Identify container damage.

You should assess the container as thoroughly as possible from a location uphill and upwind of the material and container. Information about the material and container may be available from employees or drivers at the scene of the incident. First Responders should not approach a container in order to collect this information. This task is appropriate only for individuals with advanced training and equipment, for example, hazardous materials technicians or industry workers. As much information as possible should be gathered from a defensive position, regardless of the resources on site.

If you can identify the type of container using recognition and identification skills (which you learned in Unit 3), you may be able to determine what the container is made of. For example, you should know that non-pressure cargo tanks are typically made of aluminum. This material is lightweight and will melt, rather than explode, in the event of a fire involving flammable liquid cargo. If possible, you should also assess whether the container has an outer shell or jacket, the thickness of the construction material, and the way that the construction material is fastened together (such as welds or rivets). You may also be able to learn the age of a container from a facility manager or shipper.

What skilled support personnel could contribute to the incident scene at this point?
What know-how, specialty skills, and equipment might be helpful?
What resources could you provide as an individual?

6. Isolate the hazard.

First Responder actions for isolating hazards are limited to defensive tactics only**. Defensive control operations fall into the following categories:**

- **Extinguishment—**Extinguishing, or putting out a fire, can be accomplished using a variety of materials, such as water or foam. It is important to note that applying water may not be appropriate at all incidents.

- **Vapor suppression—**Keeping vapors down can be accomplished with water fog or with foam, depending on the material involved. As with any tactical operation, full protective gear must be worn.

- **Vapor dispersion—**Vapor dispersion consists of moving gas/vapor to another area or diluting its concentration in air to reduce hazardous effects.

- **Diking, damming, diverting, and retaining—** Dikes, dams, diversion, and retention areas prevent the spread of spilled material.

- **Absorption**— Absorbents soak up released material like a sponge. Typical absorbent materials include sand, sawdust, commercial bagged clay, and cat litter.

- **Dilution—** Dilution reduces the concentration of a hazardous material to a non-hazardous or less hazardous state by adding a compatible, non-hazardous material, such as water.

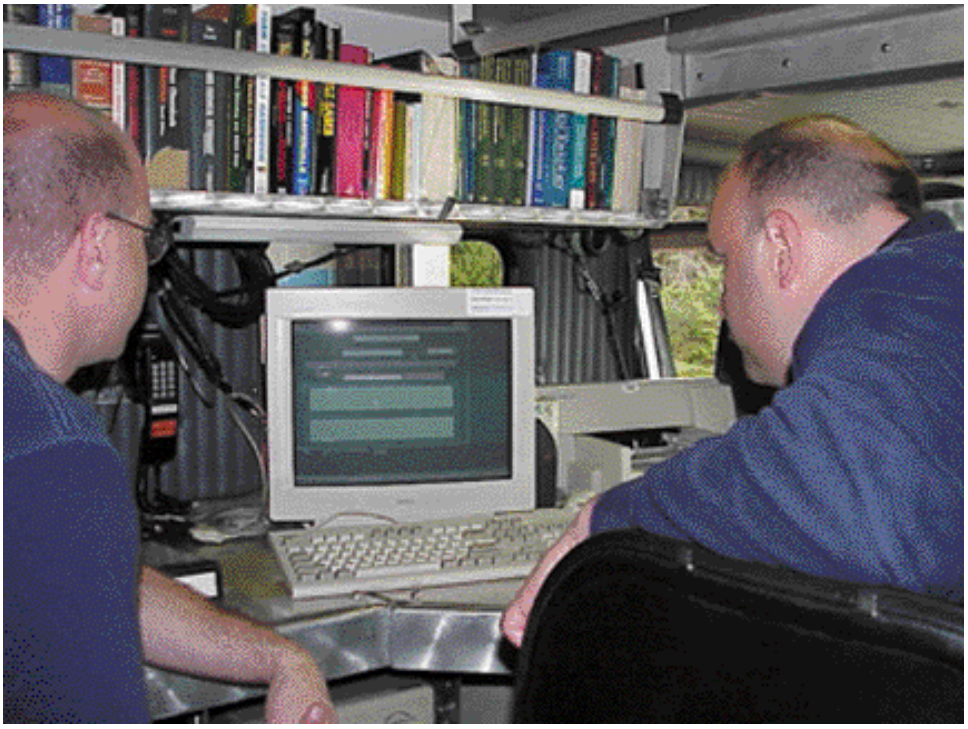
- **Remote valve shutoff—** Product flow can often be stopped by simply closing or tightening a valve or associated nuts/bolts. This is one of the simplest and most common control procedures and should be considered and evaluated early in a response.

What skilled support personnel could contribute to the incident scene at this point?
What know-how, specialty skills, and equipment might be helpful?
What resources could you provide as an individual?

7. Create a specific plan of action.

First Responders must have the knowledge and training needed to quickly make decisions regarding:

- **PPE usage**—Is Structural Firefighting Protective Clothing (SFPC) or "Bunker Gear" appropriate? If not, is chemical protective equipment available?
- **Decontamination**—Can decontamination be effective? Are resources available?
- **Rescue/Recovery**—Is rescue appropriate?
- **Spill control techniques**—Are resources available? Is spill control appropriate?
- **Remote valve shutoff**—Can remote valves be safely activated?
- **Requesting additional resources**—Have needed resources been identified? Can they be available in a timely fashion?
- **Fire control**—Can control be effected while successfully managing risk?



8. Continue to evaluate the situation.

Make decisions based on new information. As you gather information, you should use the APIE process to make decisions: analyze the problem, plan the response, implement a plan, evaluate the progress.

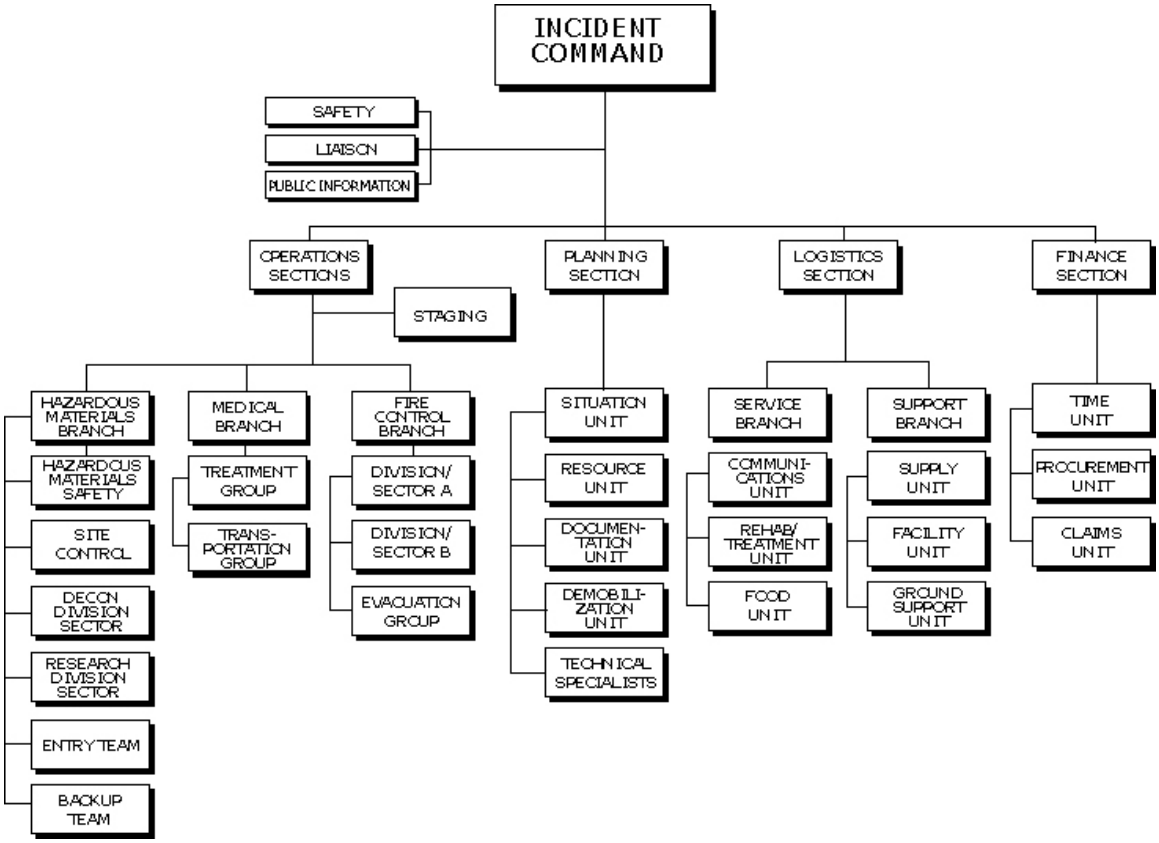
Throughout the incident, members must determine whether or not objectives are being met. The following areas should be considered.

- Does the strategy ensure the safety of personnel?
- Are personnel being tracked throughout the incident?
- Are strategic priorities being met?
- Are crews operating according to standard procedures?
- Are crews adequately supervised?
- Is the span of control manageable?

If this evaluation identifies any weaknesses, strategic goals and tactical objectives may have to be changed.

What skilled support personnel could contribute to the incident scene at this point?
What know-how, specialty skills, and equipment might be helpful?
What resources could you provide as an individual?

Appendix B: Organizational Chart of All Fire Service Units



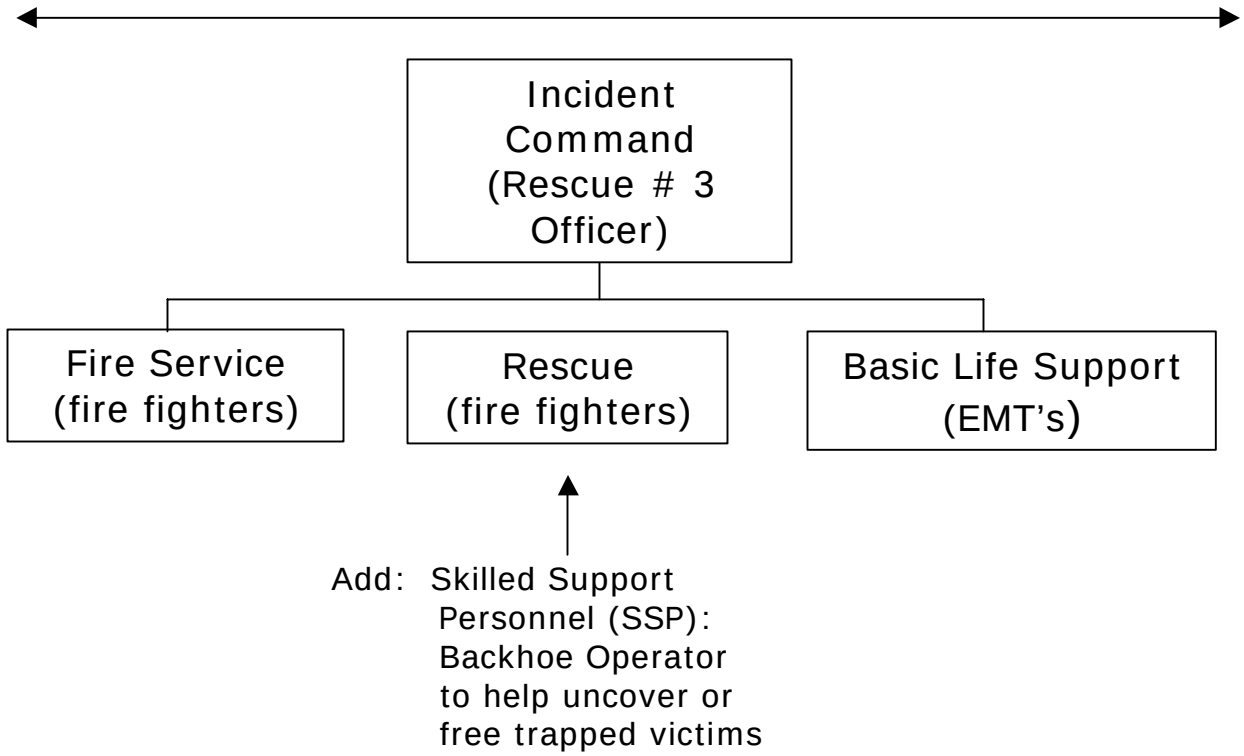
Appendix C: Small, Medium, and Large Incident Scenes Involving SSPs

Small Incident: **Utility work on gas lines; trench collapse**

Dispatched:

Engine #215 – Officer + 3 fire fighters
Rescue #3 – Officer + 4 fire fighters (Establish Command)
Basic Life Support Unit #22 – 2 Emergency Medical Technicians (EMT's)

An Example of how the Incident Command Organizational Structure would work (Chain-of-Command)

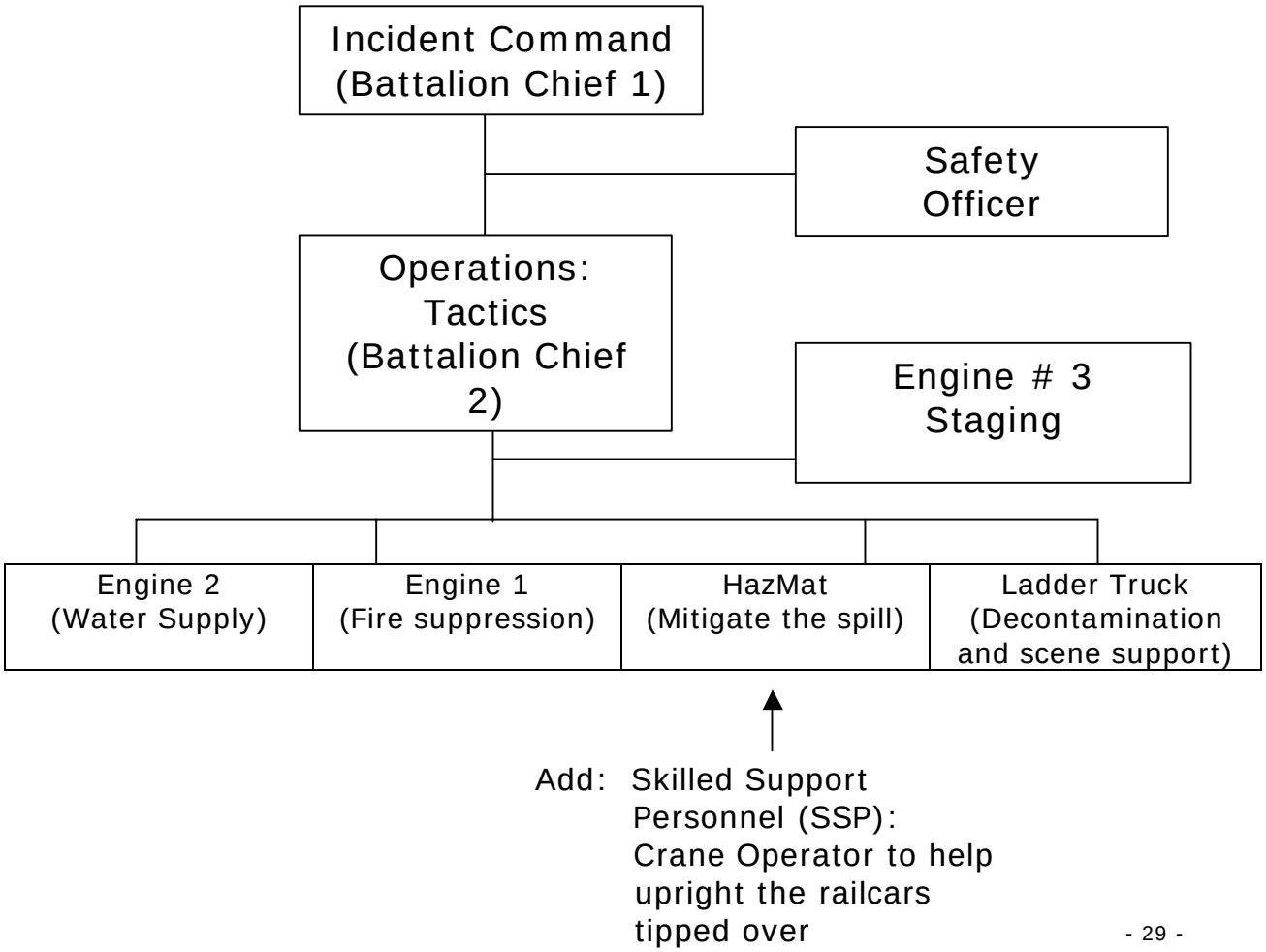


Medium Incident: **Train Derailment; pressurized flammable liquid (propylene)**

Dispatched:

3 Engines
1 Ladder Truck
1 HazMat Unit
1 Safety Officer (Safety Battalion)
2 Battalion Chiefs

An Example of how the Incident Command Organizational Structure would work (Chain-of-Command)



Large Incident:

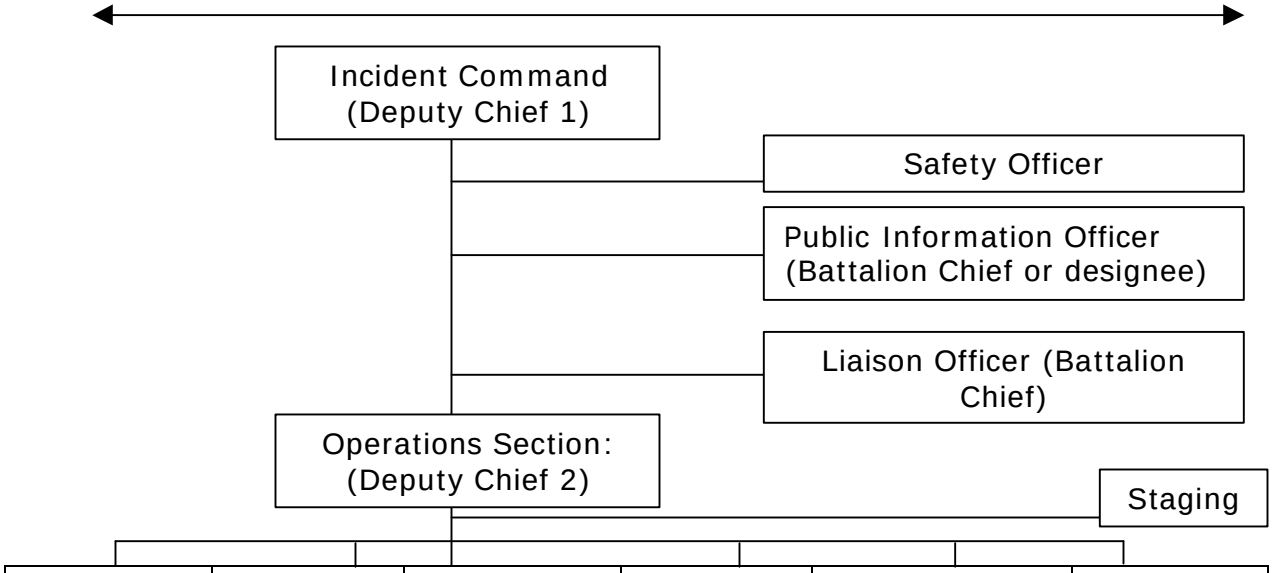
Explosion, building collapse and potential chemical release

Dispatched:

12 Engines
4 Fire Trucks
2 Rescue Squads
2 Battalion Chiefs

2 Deputy Chiefs
1 Safety Battalion Chief (Safety Officer)
2 Ladder Trucks
1 HazMat Unit

An Example of how the Incident Command Organizational Structure would work (Chain-of-Command)



Fire Branch	Rescue Branch	HazMat Branch	EMS Branch	Law Enforcement	Air Operations
- Firefighting - Water supply - Ventilation - Evacuation - Structural survey	- Trapped victims - Canine search - Shoring - Recognition - Search and rescue	- Site control - Entry - Decon - Mitigation - Research	- Treat - Triage - Transfer	- Scene security - Perimeter control - Evacuation - Crime scene presence	- Survey scene from above - Patient transport

Add: Specialized support personnel could be assigned to each					
Operating engineers take down unsafe portion of building	Cutters and welders stabilize structure and help remove victims	Earth movers help with containment and removal of contaminated materials; laborers load debris	Teamsters deliver decon tents, equip-ment and medical supplies	Carpenters erect temporary barricades, shelters, and fencing	Stone masons (allied trades) pour landing zones; structural engineers do aerial surveys